At step S11-4, processing apparatus 6 determines whether the camera viewing axis of the image currently being considered intersects the 3D computer model generated at step S4-38.

If it is determined at step S11-4 that the camera viewing axis does not intersect the 3D computer model, then processing proceeds to step S11-10 to consider the next input image.

On the other hand, if it is determined at step S11-4 that the camera viewing axis does intersect the 3D computer model, then, at step S11-6, processing apparatus 6 projects the camera viewing axis into the plane of the calibration pattern in the 3D coordinate system in which the calibration pattern and 3D computer model are defined.

At step S11-8, processing apparatus 6 determines the angle between the projected camera viewing axis and the line connecting the centre of the calibration pattern and the front marker 170.

Figure 12b illustrates the processing performed at steps S11-6 and S11-8.

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Referring to Figure 12b, the projected camera viewing axis in the two-dimensional plane of the calibration pattern is illustrated at 510, and the line connecting the centre of the calibration pattern and the front marker 170 is illustrated at 520. The angle α between the projected camera viewing axis 510 and the line 520 connecting the centre of the calibration pattern and the front marker 170 is the angle calculated by processing apparatus 6 at step S11-8.

At step S11-10, processing apparatus 6 determines whether there is another input image previously received from customer processing apparatus 2, 4 and stored at step S4-34 which remains to be processed.

Steps S11-2 to S11-10 are repeated until each input image has been processed in the way described above.

At step S11-12, processing apparatus 6 selects the input image determined at step S11-8 to have the smallest angle α between the projected camera viewing axis 510 and the line 520 connecting the centre of the calibration pattern and the front marker 170. In this way, processing apparatus 6 selects the input image which is most front-facing to the front marker 170 and hence which best shows

the part of the subject object which the user at customer

processing apparatus 2, 4 has arranged to face the front

marker 170.

5   At step S11-14, processing apparatus 6 determines whether

the angle α of the input image selected at step S11-12

is less than or equal to a predetermined angle (10° in

this embodiment).

10   If it is determined at step S11-14 that the angle α of

the selected input image is less than or equal to the

predetermined angle, then it is determined that the input

image is sufficiently front-facing to the front marker

170, and processing proceeds to step S11-16.

15   At step S11-16, processing apparatus 6 determines whether

the camera viewing axis for the selected image is within

a predetermined angle of the horizontal (± 30° in this

embodiment).

20   More particularly, referring to Figure 12c, processing

apparatus 6 calculates the elevation angle β between the

camera viewing axis 500 and a horizontal line 530, and

determines whether the value of β is less than or equal

25   to 30°.